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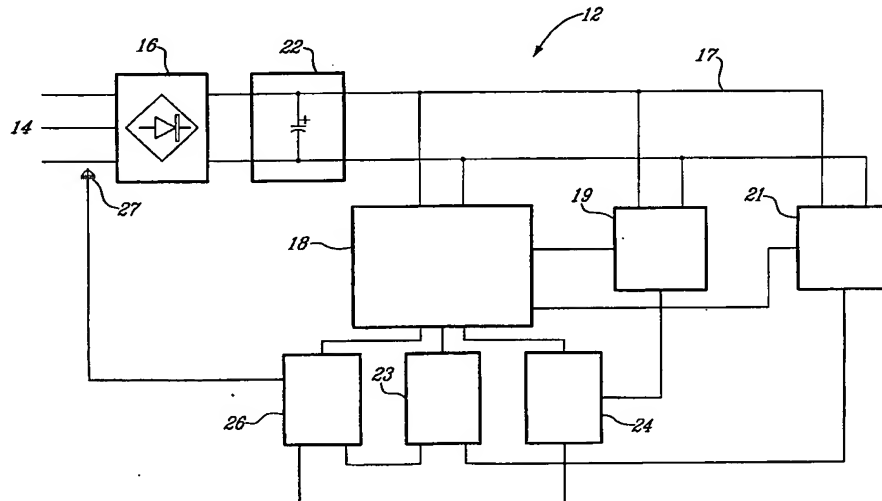
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(54) Title: POWER SUPPLY CIRCUIT OF A HIGH SPEED ELECTRIC MOTOR



(57) Abstract: A power control system (12) for an electric motor having at least one magnetic bearing includes a DC/DC converter (18) supplied from a DC link bus (179) connected to a main power supply (14), the bus (17) supplying power for the electric motor and for a bearing actuator; the converter (18) provides low voltage DC power supplies for a motor controller (23), a bearing controller (24) and a supervisory controller (26), the later monitoring the main power supply and communicating with the motor controller (23) and bearing controller (24) so as to cause the motor to operate as a generator in the event of a failure of the main power supply (14) to thereby supply power to the DC link bus (17) to maintain operation of the magnetic bearing. Circuit switching components are connected to the motor winding and selectively switched in a manner causing current generated in the motor winding to flow in one direction into the DC link bus (17) only while the winding voltage is greater than that of the DC link bus (17).

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